

Amendments to the Drawings:

Please amend Fig. 1 by adding the legends "a", "b" and "c" to the three machine windings as indicated on the attached Replacement Sheet of drawing for Fig. 1.

REMARKS

The Office Action of Ju20, 2006 and the references cited therein have been carefully considered.

In this Amendment, the Specification has been amended to correct noted informalities, the Abstract and Drawings have been amended to overcome the Examiner's objections thereto, and the claims have been amended to more clearly and distinctly define the invention. Additionally, a new independent claim 10, which is similar to claim 1 but defines the invention with a different form and scope, has been added.

The Examiner's indication that the Information Disclosure Statement filed August 1, 2005 fails to comply with 37 CFR 1.98(a)(3) in that no concise statement of the relevance of cited reference DE 2118703A was provided and thus this reference was not considered, has been noted. Reconsideration of the decision to not consider this reference is requested. It is noted that this application is the national stage of a PCT application, and the above mentioned reference was cited in the International Search Report issued in connection with the PCT application. However, where, as here, the International Search Report and the copy of the reference are in the file, the Examiner should consider the reference without any action by the applicant under 37 CFR 1.97 and 1.98. In this regard see MPEP 1893.03(g) which states that, in the above situation, "The Examiner will consider the references cited in the International Search Report without further action by applicant under 37 CFR 1.97 and 1.98" (emphasis added). Accordingly, consideration of reference DE 2118703, whose relevance is indicated in the International Search Report as being in Category A with respect to claims 1 and 8, is requested.

The Examiner's objection to the Drawings for the reason that the reference numerals a, b, c for the phase windings are not shown has been noted. In response, Fig. 1 has been amended to include these reference numerals and a replacement sheet of formal drawing for Fig. 1 is attached. It is requested that the Examiner indicate entry of the amendment and acceptance of the new formal drawing in the next Office Action.

In response to the Examiner's objection to the Abstract, an amended abstract deleting the type of language objected to by the Examiner has been provided on a separate sheet. Therefore this objection has been overcome and should be withdrawn.

Reconsideration of the rejection of claims 1-8, i.e., all of the original claims, under 35 U.S.C. 103(a) as being unpatentable over the patent to Steffan in view of the patent to Sato et al is respectfully requested. In urging this ground of rejection, the Examiner has essentially taken the position that the Steffan patent shows all of the claimed features of claim 1 other than that the division of the inverter into two identical inverters each having half the maximum power each having three branch pairs connected to and associated phase winding of the three generator phase windings; that Sato et al discloses all of the features not taught by the Steffan patent, as well as a switch for connecting and disconnecting the inverter branches from one another, and that consequently it would be obvious to one skilled in the art to modify the Steffan system to include the teachings of Sato et al regarding the dividing of the inverter into two inverters with three branch pairs connected to respective phase windings; and that the resulting combination would be the present invention as defined in claim 1. This conclusion by the Examiner is respectfully traversed, particularly with regard to the claims as now amended. That is, even if the combination suggested by the Examiner could or would be made, the result would not be applicant's invention.

The present invention, as defined in claim 1, comprises an electric motor/generator system wherein the circuit can be switched between a star mode configuration and a single phase mode configuration. Accordingly, the circuit includes a pair of identical pulse controlled inverters, each including three branches, which each comprise two symmetrically arranged electronic controllable switches that are connected in series in the same direction, that are connected to a d.c. voltage source via busbars. Each of the three phase winding of the rotational field machine is connected between a center point of a respective branch in one of the pulse-controlled inverters and a center point of a respective branch of the other pulse-controlled inverter. Additionally, a switch is provided to so that the positive busbar of the first pulse controlled inverter can be selectively connected and

disconnected from the positive busbar of the second pulse-controlled inverter and from the d.c. voltage source.

The primary reference to Steffan discloses a circuit arrangement utilizing a single pulse-controlled inverter with three branches each containing series connected electronic branch switches, wherein the three generator phase windings of the rotational field machine each have one end connected to the center point of a respective branch, and their other ends connected in a star mode configuration. As recognized by the Examiner, there is no second pulse-controlled inverter nor are the phase windings connected between center points of respective branches in each of the pulse-controlled inverters. Moreover, the Steffan patent does, as pointed out by the Examiner, disclose an electronic switch (20) for activating the system for start up mode of operation, the switch is not located in the circuit as recited in claim 1 nor does perform the same function since of course there is only one pulse-controlled inverter.

In order to overcome the deficiencies of the Steffan patent as mentioned above, the Examiner has cited the Sato et al patent. While this patent does show that it is known to connect the three generator phase windings between center points of respective branches of two different converters, the two diodes in each branch are simple diodes that are not controllable and the two circuits are simply full wave rectifiers. Consequently, with such an arrangement one cannot switch between a star mode and a single phase mode as is possible with the present invention. Moreover, why would one skilled in the art find it obvious to substitute a full wave rectifying network arrangement of Sato et al for a pulse- controlled inverter arrangement of Steffan? Moreover, even if the combination could be made, there still would not be any switch corresponding to the electronic switch as now defined in claim 1. Note that the switch 10 of Sato et al does not connect and disconnect a busbar of a first converter or inverter from a busbar of a second converter and from the d.c. voltage source as required by claim 1, but rather, as clearly stated in this patent simply for connecting the positive terminal of one full wave rectifier to its negative terminal. Switches for performing this function are not present nor needed in the circuit arrangement of the present invention.

For the above stated reasons, it is submitted that claim 1, and claims 2-7 dependent thereon are allowable over the combination of the Steffan and Sato et al patents. Moreover, it is noted that the Examiner has not specifically mentioned any of the dependent claims 2-7 in the rejection. While claims 2-5 may simply recite various forms of the branch switches, at least one of which is disclosed in the Steffan patent, claims 6 and 7 recite additional features of the invention which do not appear to be taught by either of the cited references. Accordingly, it is submitted that claims 6 and 7 are further allowable due to the additional limitations thereof.

Claims 8 and 9, which are included in the above ground of rejection, are method claims and were additionally dismissed by the Examiner with the statement that the claimed method was inherent in operation of the claimed system of claim 1, from which these claims depend. This position is respectfully traversed. It is submitted that there is nothing inherent in the claimed steps of method, particularly where the circuit is novel. Accordingly, in the absence of any teaching or suggestion in the references of the specific mode of operation recited in these claims for operating the novel circuit of claim 1, it is submitted that claims 8 and 9 are likewise allowable over the cited combination of references.

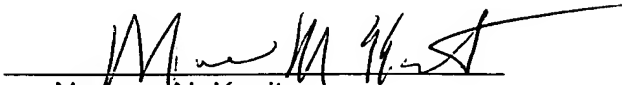
Newly presented independent claim 10 is similar to claim 1, but expresses the invention with a different form and scope. Accordingly, it is submitted that claim 10 is allowable over the cited combination of references for at least the same reasons as claim 1.

In view of the above amendments and for the above stated reasons, it is submitted that all of the pending claims, i.e., claims 1-10, are allowable over the references and rejections of record and are in condition for allowance. Such action and the passing of this application to issue are therefore respectfully requested.

If the Examiner is of the opinion that the prosecution of this application would be advanced by a personal interview, the Examiner is invited to telephone undersigned counsel to arrange for such an interview.

Respectfully submitted,

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ABSTRACT

A generator/motor system and a method for operating this generator/motor system with which the filter currents are reduced. The generator/motor system has, for this purpose, a rotational field machine (DM) and a pulse-controlled inverter and filter capacitors (C1, C2). The pulse-controlled inverter is formed by two identical pulse-controlled inverters (PWR1, PWR2) which each have half the rated power. During operation, depending on the necessary rotational speed switching over is performed between a star circuit in which only the first pulse-controlled inverter is operational, and a single phase circuit in which both pulse-controlled inverters are operational. In order to obtain a torque which is comparable to the prior art, even if only one of the two pulse-controlled inverters is used, the rotational field machine has approximately twice the number of stator turns.